DOCTORAL SCIENTISTS AND ENGINEERS: 2001 PROFILE
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Table 1. Distribution of doctoral scientists and engineers, by field of doctorate: 2001

Field of doctorate	Number	Percent
Total	656,500	100
Sciences	543,600	83
Computer and mathematical sciences	40,800	6
Computer/information sciences	11,200	2
Mathematical sciences	29,600	5
Biological and agricultural sciences	161,200	25
Agricultural/food sciences	19,900	3
Biological sciences	135,300	21
Environmental life sciences	6,100	1
Health sciences	23,700	4
Physical and related sciences	131,700	20
Chemistry except biochemistry	68,400	10
Earth/atmosperic/ocean sciences	19,200	3
Physics and astronomy	44,100	7
Social sciences	87,600	13
Economics	24,900	4
Political and related sciences	19,300	3
Sociology	16,100	3
Other social sciences	27,400	4
Psychology	98,600	15
Engineering	113,000	17
Aerospace/aeronautical engineering	4,600	1
Chemical engineering	16,000	2
Civil engineering	10,200	2
Electrical/computer engineering	30,500	5
Materials/metallurgical engineering	11,800	2
Mechanical engineering	14,300	2
Other engineering	25,700	4

NOTES: Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 2. Demographic characteristics of doctoral scientists and engineers, by field of doctorate: 2001

Demographic characteristic	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total (number)	656,500	11,200	29,600	161,200	23,700	131,700	87,600	98,600	113,000
	Percent								
Year of doctorate:									
Pre-1970	14	S	19	14	5	22	11	10	15
1970-1979	23	S	30	23	17	24	28	24	21
1980-1984	12	9	9	13	12	11	14	16	9
1985-1989	13	17	9	13	14	12	13	15	12
1990-1992	9	17	8	9	12	8	8	10	10
1993-1994	7	14	6	7	9	6	6	6	8
1995-1996	7	13	6	7	10	6	6	7	9
1997-1998	8	15	7	8	11	6	7	7	9
1999-2000	7	13	7	8	11	6	7	7	8
Sex:									
Male	75	83	85	71	44	87	69	52	93
Female	25	17	15	29	56	14	31	48	7
Race/ethnicity:									
White[1]	80	65	79	82	82	81	84	90	67
Black	2	S	S	2	5	1	5	4	2
Asian/Pacific Islander	15	31	17	13	10	15	8	3	30
Hispanic	3	S	3	3	3	2	3	3	2
American Indian/Alaskan Native	--	S	S	S	S	S	S	S	S
Age:									
Under 35	9	15	10	9	6	9	6	7	11
35-39	13	24	12	14	9	13	9	11	16
40-44	14	22	10	14	12	14	12	12	16
45-49	15	19	11	17	17	13	14	17	13
50-54	15	13	13	14	23	12	18	20	10
55-59	14	6	17	13	16	14	18	16	12
60-64	10	S	15	9	9	12	12	8	11
65-75	12	S	12	11	9	15	13	10	11
Citizenship status:									
U.S. citizen	91	78	88	92	93	92	92	98	84
Native born	85	74	83	88	90	84	89	95	70
Naturalized	15	26	17	12	10	16	11	5	30
Non-U.S. citizen	9	23	12	8	7	8	8	2	16
Permanent U.S. resident	71	74	63	71	68	71	76	78	70
Temporary U.S. resident	29	26	38	29	32	29	24	S	30

[1] 'Other' race included with 'White'.

KEY: -- = Percent < 0.5 and estimated weighted cases >= 500

S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Race/ethnicity data are shown for all doctorate recipients, including temporary residents. Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 3. Demographic characteristics of doctoral scientists and engineers, by years since doctorate: 2001

Demographic characteristic	Years since doctorate				
	Total	5 or less	6-15	16-25	More than 25
Total (number)	656,500	121,600	193,800	155,300	185,800
			Percent		
Sex:					
Male	75	63	67	75	90
Female	25	37	33	25	10
Race/ethnicity:					
White[1]	80	67	75	86	90
Black	2	4	3	3	1
Asian/Pacific Islander	15	25	19	10	7
Hispanic	3	4	3	2	1
American Indian/Alaskan Native	--	S	--	S	--
Citizenship status:					
U.S. citizen	91	73	90	98	99
Non-U.S. citizen	9	27	11	2	1

[1] 'Other' race included with 'White'.

KEY: -- = Percent < 0.5 and estimated weighted cases >= 500.
S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Race/ethnicity data are shown for all doctorate recipients, including temporary residents. Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 4. Labor force status of doctoral scientists and engineers, by field of doctorate: 2001

Labor force status	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total (number)	656,500	40,800	161,200	23,700	131,700	87,600	98,600	113,000
	Percent							
Employed full-time[1]	81	84	82	82	79	79	75	84
Employed part-time[1]	7	6	5	8	5	8	15	4
Unemployed, seeking work	1	1	1	S	1	1	1	2
Retired	9	7	9	7	12	10	6	9
Not employed, not seeking work	2	1	3	S	2	2	3	2

[1] Includes those who held postdoctoral appointments.

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Numbers are rounded to nearest hundred and details may not add to totals because of rounding. Percentages are rounded to the nearest whole number. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 5. Reasons for not working as reported by doctoral scientists and engineers, by age: 2001

Reasons for not working	All ages	Under 65	65-75
Total not employed (number)	81,700	36,500	45,200
		Percent	
Retired	74	46	97
On layoff	4	9	S
Student	3	6	S
Family responsibilities	10	21	2
Ill or disabled	6	10	2
Suitable job not available	7	13	2
No need or desire to work	13	19	9
Other reason	3	5	1

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Numbers are rounded to nearest hundred and details may not add to totals because of rounding. Percentages are rounded to the whole number and may sum to more than 100 because multiple answers are allowed. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 6. Reasons for working part-time as reported by doctoral scientists and engineers, by age: 2001

Reason for working part-time	All ages	Under 65	65-75
Total employed part-time (number)	46,500	35,200	11,400
		Percent	
Retired or semi-retired	36	21	83
Student	2	2	S
Family responsibilities	29	37	5
Ill/disabled	4	5	S
Suitable full-time job not available	14	16	8
No need or desire for full-time work	41	43	34
Other reason	8	9	5

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Numbers are rounded to nearest hundred and details may not add to totals because of rounding. Percentages are rounded to the whole number and may sum to more than 100 because multiple answers are allowed. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 7. Employment status of doctoral scientists and engineers, by field of doctorate and sex: 2001

Employment status and sex	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total in labor force (number)	582,500	37,300	142,400	21,500	113,200	77,200	89,600	101,300
	Percent							
Employed full-time[1]	91	92	93	91	92	89	82	94
Employed part-time[1]	8	7	6	9	6	9	17	4
Unemployed, seeking work	1	1	1	S	2	1	1	2
Male (number)	433,200	31,600	101,200	9,200	97,600	53,000	46,900	93,600
	Percent							
Employed full-time[1]	93	93	94	94	93	91	90	94
Employed part-time[1]	6	6	5	6	6	8	10	4
Unemployed, seeking work	1	S	1	S	2	1	S	2
Female (number)	149,200	5,600	41,200	12,200	15,600	24,200	42,600	7,700
	Percent							
Employed full-time[1]	84	87	89	88	89	86	74	91
Employed part-time[1]	14	12	10	11	9	12	25	8
Unemployed, seeking work	1	S	1	S	S	S	S	S

[1] Includes those who held postdoctoral appointments.

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Numbers are rounded to nearest hundred. Percentages are rounded to the whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 8. Retired doctoral scientists and engineers, by field of doctorate and age: 2001

Age	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total retired (number)	60,400	3,000	14,500	1,700	16,200	8,700	6,200	10,200
	Percent							
Age group:								
Under 65	27	34	24	33	27	25	28	32
65-75	73	66	76	67	73	75	72	68

NOTES: Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 9. Employment sector of doctoral scientists and engineers, by field of doctorate: 2001

Employment sector	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed (number)	574,900	10,800	26,000	140,800	21,400	111,300	76,200	88,900	99,600
	Percent								
Education institution	46	36	60	55	58	37	65	40	28
Industry	45	60	34	35	34	53	24	50	65
Government	10	S	6	11	8	10	11	10	8

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 10. Employer characteristics of doctoral scientists and engineers, by field of doctorate: 2001

Employer characteristic	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed (number)	574,900	36,700	140,800	21,400	111,300	76,200	88,900	99,600
	Percent							
Employer size:								
Under 10 employees	10	5	7	9	7	8	28	7
10-24 employees	3	3	3	S	2	2	3	4
25-99 employees	5	4	5	4	5	3	4	6
100-499 employees	10	12	9	8	11	11	10	9
500-999 employees	5	5	4	4	5	6	6	4
1,000-4,999 employees	11	11	12	11	12	11	8	12
5,000 or more employees	57	61	61	62	59	59	40	59
Employer a new business within past 5 years?								
Yes	7	9	6	5	7	4	7	11
No	93	91	94	95	93	96	93	89

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 11. Relationship between work on principal job and doctoral degree as reported by doctoral scientists and engineers, by field of doctorate: 2001

Relationship between principal job and doctoral degree	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed (number)	574,900	10,800	26,000	140,800	21,400	111,300	76,200	88,900	99,600
	Percent								
Closely related	68	73	65	69	78	57	73	82	62
Somewhat related	24	24	26	24	17	32	20	14	30
Not related	8	S	8	7	4	11	7	4	8

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 12. Most important reason for doctoral scientists and engineers to be working outside field of doctoral degree: 2001

Most important reason	Field of doctorate								
		Sciences							
	All fields	All sciences	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social and related sciences	Psychology	Engineering
Total reporting working outside doctoral degree field (number)	44,000	35,800	2,500	10,500	900	12,700	5,300	3,800	8,200
	Percent								
Pay/promotion opportunities	25	24	27	23	S	26	20	24	27
Working conditions	5	5	S	6	S	4	S	S	S
Job location	5	5	S	S	S	6	S	S	S
Change in career or professional interest	34	33	34	36	S	31	32	34	37
Family-related reasons	7	8	S	8	S	7	S	S	S
Job in doctoral field not available	21	22	22	19	S	25	25	18	17
Other reason	3	3	S	S	S	S	S	S	S

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 13. Primary or secondary work activity of doctoral scientists and engineers, by years since doctorate: 2001

Primary or secondary work activity	Years since doctorate				
	Total	5 or less	6-15	16-25	More than 25
Total employed (number)	574,900	116,800	185,300	144,800	128,000
	Percent				
Applied research	36	45	36	32	29
Basic research	25	31	25	22	22
Development	13	15	14	12	11
Design	7	9	7	6	6
Teaching	32	27	31	32	38
Management, sales, and administration[1]	38	27	37	44	40
Computer applications	12	18	13	10	9
Professional services	17	13	17	19	16
Other activities[2]	5	4	5	6	7

[1] Category includes: accounting, finance, contracts; employee relations including recruiting, personnel, development, and training; managing, supervising; sales, purchasing, marketing, customer service, public relations; and quality or productivity management.

[2] Category includes: production operations, maintenance, and other activity.

NOTES: Numbers are rounded to nearest hundred and details may not add to totals because of rounding. Percentages are rounded to the nearest whole number and may sum to more than 100 because multiple answers are allowed. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 14. Principal occupation of doctoral scientists and engineers, by employment sector: 2001

Principal occupation	Employment sector							
	Total	Universities and 4-year colleges	Other educational institutions	Private for-profit[1]	Self-employed	Private not-for-profit	Federal Government	State/local government
Total employed (number)	574,900	245,100	18,000	198,400	30,400	28,400	38,100	16,600
					Percent			
Science and engineering occupations	74	82	61	69	71	64	79	65
Computer and information scientists	6	3	S	12	3	3	3	S
Mathematical scientists	4	6	5	2	S	3	4	S
Life and related scientists	19	27	12	12	5	14	25	12
Physical and related scientists	13	13	14	13	4	9	21	10
Social and related scientists	8	14	7	2	3	6	8	6
Psychologists	12	10	21	6	49	21	5	27
Engineers	13	9	S	22	6	7	13	6
Non-science and engineering occupations	26	18	39	31	29	36	22	35
Top/mid-level managers, administrators, etc	13	7	10	20	6	22	15	23
Other non-S&E occupations	12	11	29	12	23	15	6	13

[1] 'Private-for-profit' includes 'other' sector, not shown separately due to too few cases.

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 15. Principal occupation of doctoral scientists and engineers, by years since doctorate: 2001

Principal occupation	Years since doctorate				
	Total	5 or less	6-15	16-25	More than 25
Total employed (number)	574,900	116,800	185,300	144,800	128,000
	Percent				
Science and engineering occupations	74	82	76	71	70
Computer and information scientists	6	8	7	5	4
Mathematical scientists	4	4	4	3	5
Life and related scientists	19	22	20	18	16
Physical and related scientists	13	12	13	12	15
Social and related scientists	8	9	8	9	8
Psychologists	12	10	12	13	10
Engineers	13	16	14	10	13
Non-science and engineering occupations	26	19	24	29	30
Top/mid-level managers, administrators, etc	13	6	11	17	18
Other non-S&E occupations	12	13	13	12	12

NOTES: Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 16. Federal Government support status of doctoral scientists and engineers who were working in 2000, by field of doctorate: 2001

Support status	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed in 2000 (number).....	596,200	11,100	26,900	145,600	22,000	116,900	79,200	91,500	103,000
					Percent				
Received government support.....	29	22	26	38	29	32	21	20	30
No government support.....	71	78	74	62	71	68	79	80	70

NOTES: Total employed in 2000 includes those who were not employed in 2001. Data are based on a question that asked of those who worked in 2000 whether any of the work during that year was supported by contracts or grants from the U.S. goverment. Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctoratefrom an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 17. Federal Government support status of employed doctoral scientists and engineers who were working in 2000, by employment sector: 2001

Support status	Total	Employment sector in 2001							
		Universities and 4-year colleges	Other educational institutions	Private for-profit[1]	Self-employed	Private not-for-profit	Federal Government	State and local government	Not working in 2001
Total employed in 2000 (number).....	596,200	243,500	17,700	196,900	30,100	28,300	37,900	16,500	25,300
	Percent								
Received government support.....	29	46	11	17	11	47	NA	36	18
No government support.....	71	54	89	83	89	53	NA	64	82

[1] 'Private-for-profit' includes 'other' sector, not shown separately due to too few cases.

KEY: NA = not applicable.

NOTES: Total employed in 2000 includes those who were not employed in 2001. Data are based on a question that asked of those who worked in 2000 whether any of the work during that year was supported by contracts or grants from the U.S. goverment. Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 18. Federal agencies and departments supporting work of doctoral scientists and engineers who were working in 2000: 2001

Federal agency or department	All fields
Total that received Federal Government support in 2000 (number)	174,400
	Percent
Agriculture Department	8
Defense Department (DoD)	20
Department of Education (includes NCES, OERI, FIPSE, FIRST)	3
Energy Department (DOE)	12
Environmental Protection Agency (EPA)	5
Health and Human Services Department (excluding NIH)	9
National Aeronautics and Space Administration (NASA)	9
National Institutes of Health (NIH)	33
National Science Foundation (NSF)	21
Transportation Department (DOT)	3
Other	10
Don't know source agency	2

NOTES: Data are based on a question that asked of those who worked in 2000 whether any of the work during that year was supported by contracts or grants from the U.S. government and the agencies or departments that supported the work. Percentages are rounded to the nearest whole number and may sum to more than 100 because multiple answers are allowed. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 19. Academically employed doctoral scientists and engineers, by field of doctorate and faculty rank: 2001

Faculty rank	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed in academe (number)	254,600	3,800	15,500	75,700	12,100	39,500	49,000	31,500	27,500
	Percent								
Professor	35	21	45	31	25	37	40	33	41
Associate professor	21	45	25	19	28	17	24	20	23
Assistant professor	19	24	16	19	30	15	20	21	18
Instructor, lecturer, adjunct faculty	7	S	8	7	6	7	7	8	5
Not applicable at institution	2	S	S	1	S	5	2	3	3
Not applicable for position	15	S	5	23	11	19	7	16	11

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Academe includes 2-year and 4-year colleges, universities, medical schools, and university-affiliated research institutes. Those on postdoctoral appointments are also included in this table, mostly under "not applicable for position". Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to total because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 20. Academically employed doctoral scientists and engineers, by years since doctorate, sex, and faculty rank: 2001

Sex and faculty rank	Years since doctorate				
	Total	5 or less	6-15	16-25	More than 25
Total employed in academe (number)	254,600	53,600	78,100	61,400	61,500
			Percent		
Professor	35	2	13	54	73
Associate professor	21	5	37	26	11
Assistant professor	19	44	28	4	2
Instructor, lecturer, adjunct faculty	7	10	8	5	6
Not applicable at institution	2	2	2	2	2
Not applicable for position	15	37	13	9	6
Male (number)	182,000	31,700	49,600	46,100	54,700
			Percent		
Professor	41	2	15	58	74
Associate professor	21	5	39	25	11
Assistant professor	16	45	26	4	2
Instructor, lecturer, adjunct faculty	6	9	6	4	5
Not applicable at institution	2	2	3	2	2
Not applicable for position	13	37	12	8	6
Female (number)	72,600	21,900	28,500	15,300	6,800
			Percent		
Professor	19	2	10	43	63
Associate professor	22	4	34	29	13
Assistant professor	26	42	30	7	S
Instructor, lecturer, adjunct faculty	10	11	11	8	10
Not applicable at institution	2	3	2	S	S
Not applicable for position	20	38	14	11	9

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Academe includes 2-year and 4-year colleges, universities, medical schools, and university-affiliated research institutes. Those on postdoctoral appointments are also included in this table, mostly under "not applicable for position". Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to total because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 21. Academically employed doctoral scientists and engineers, by field of doctorate and tenure status: 2001

Tenure status	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed in academe (number).....	254,600	3,800	15,500	75,700	12,100	39,500	49,000	31,500	27,500
	Percent								
Tenured.....	50	54	67	41	41	49	58	45	57
On tenure track.....	16	28	13	15	25	14	17	14	17
Not on tenure track.....	12	S	10	16	14	12	8	13	9
No tenure system at institution.....	6	S	S	6	5	7	4	7	6
No tenure for position.....	17	S	9	23	15	19	12	21	11

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Academe includes 2-year and 4-year colleges, universities, medical schools, and university-affiliated research institutes. Those on postdoctoral appointments are also included in this table, mostly under "not applicable for position". Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to total because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 22. Academically employed doctoral scientists and engineers, by years since doctorate, sex, and tenure status: 2001

Sex and tenure status	Years since doctorate				
	Total	5 or less	6-15	16-25	More than 25
Total employed in academe (number)	254,600	53,600	78,100	61,400	61,500
	Percent				
Tenured	50	4	43	71	78
On tenure track	16	35	24	4	1
Not on tenure track	12	23	12	8	6
No tenure system at institution	6	6	6	6	5
No tenure for position	17	33	16	11	10
Male (number)	182,000	31,700	49,600	46,100	54,700
	Percent				
Tenured	55	3	46	74	79
On tenure track	14	38	24	3	1
Not on tenure track	10	23	10	7	6
No tenure system at institution	5	6	6	5	5
No tenure for position	15	31	14	10	10
Female (number)	72,600	21,900	28,500	15,300	6,800
	Percent				
Tenured	35	4	37	62	69
On tenure track	19	32	22	5	S
Not on tenure track	16	23	16	11	8
No tenure system at institution	6	6	5	7	S
No tenure for position	23	36	19	15	16

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Academe includes 2-year and 4-year colleges, universities, medical schools, and university-affiliated research institutes. Those on postdoctoral appointments are also included in this table, mostly under "not applicable for position". Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to total because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 23. Primary reason for holding postdoc for doctoral scientists and engineers, by selected field of doctorate: 2001

Reason	Field of doctorate		
	All fields	Biological and agricultural sciences	Other fields
Total postdocs (number)	21,900	12,900	9,000
		Percent	
Primary reason for holding postdoc:			
Additional training in field	21	20	22
Training out of field	12	12	12
Work with specific person or place	21	19	25
No other employment available	12	11	13
Postdoc generally expected for career in this field	30	34	24
Other reason	5	5	S

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Postdoc is a temporary position awarded in academe, industry or government primarily for gaining additional education and training in research. Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to total because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 24. Second job status of doctoral scientists and engineers, by employment sector of principal job: 2001

Second job status and occupation	Employment sector of principal job							
	All sectors	Universities and 4-year colleges	Other educational institutions	Private for-profit[1]	Self-employed	Private not-for-profit	Federal Government	State and local government
Total employed (number)	574,900	245,100	18,000	198,400	30,400	28,400	38,100	16,600
	Percent							
Held second job	13	15	30	7	14	19	9	25
No second job	87	85	71	93	86	81	91	75
Total holding second job (number)	73,900	36,800	5,300	14,300	4,300	5,500	3,600	4,100
	Percent							
Occupation of second job:								
Science and engineering occupations	62	62	66	54	55	72	68	67
Computer and information scientists	4	4	S	8	S	S	S	S
Mathematical scientists	3	3	S	S	S	S	S	S
Life and related scientists	9	11	11	6	S	11	S	S
Physical and related scientists	6	6	S	7	S	S	S	S
Social and related scientists	9	11	S	4	S	S	S	S
Psychologists	22	16	34	15	34	45	17	45
Engineers	8	9	S	13	S	S	S	S
Non-science and engineering occupation	39	38	34	46	45	28	32	34
Top/mid-level managers, administrators, etc.	5	5	S	7	S	S	S	S
Other non-S&E occupations	34	33	31	38	41	25	28	30

[1] 'Private-for-profit' includes 'other' sector, not shown separately due to too few cases.

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 25. Relationship between work on second job and doctoral degree by doctoral scientists and engineers, by field of doctorate: 2001

Relationship	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total holding second job (number)	73,900	3,500	13,300	4,200	8,700	12,600	21,900	9,800
	Percent							
Closely related	66	64	53	66	45	67	83	63
Somewhat related	19	24	26	22	24	19	11	21
Not related	15	S	21	12	31	14	7	16

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 26. Employment changes by doctoral scientists and engineers since 1999, by field of doctorate: 2001

Employment change	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed in 2001 (number)	574,900	36,700	140,800	21,400	111,300	76,200	88,900	99,600
	Percent							
Not employed in 1999	4	3	4	4	3	4	3	4
No change since 1999	73	71	73	70	73	76	78	68
Change in employer and job	11	12	12	14	12	9	8	14
Change in employer only	5	7	5	5	5	5	5	6
Change in job only	7	7	7	7	7	6	5	8

NOTES: Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 27. Reasons for changing employer and/or job since 1999 for employed doctoral scientists and engineers, by field of doctorate: 2001

Reasons	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total changing employer and/or job (number)	133,500	9,600	32,700	5,600	26,400	14,900	16,500	27,700
	Percent							
Pay or promotion opportunities	59	56	62	57	58	53	61	57
Working conditions	34	33	32	37	32	37	41	32
Job location	25	23	26	26	26	25	27	22
Change in career	34	34	33	34	34	32	27	42
Family-related reasons	12	8	14	16	11	13	16	10
School-related reasons	12	13	14	15	11	12	14	9
Laid off or job terminated	19	19	18	17	21	20	18	17
Retired	4	S	3	S	5	6	4	4
Other reason	2	S	2	S	3	S	S	2

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Numbers are rounded to nearest hundred and details may not add to totals because of rounding. Percentages are rounded to the whole number and may sum to more than 100 because multiple answers are allowed. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 28. Professional society or association membership of doctoral scientists and engineers, by field of doctorate: 2001

Number of memberships	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total (number)	656,500	11,200	29,600	161,200	23,700	131,700	87,600	98,600	113,000
	Percent								
None	21	28	27	20	10	22	22	17	24
One	22	24	25	19	17	27	16	23	25
Two	24	29	24	23	25	24	22	24	23
Three	15	12	13	16	18	14	18	16	14
Four or more	18	7	12	22	30	13	22	20	13

NOTES: Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 29. Work-related training activities of doctoral scientists and engineers, by field of doctorate: 2001

Training areas and reasons for taking training	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total (number)	656,500	40,800	161,200	23,700	131,700	87,600	98,600	113,000
	Percent							
Taken work-related training in the past year	53	42	52	68	45	48	71	51
Did not take work-related training	47	58	48	32	55	52	29	49
Total taking training (number)	346,600	17,300	83,900	16,200	59,400	41,900	69,900	58,000
Type of training:	Percent							
Management/supervisor training	27	20	30	28	30	25	18	34
Training in occupational field	80	78	78	84	77	71	91	78
General professional training	21	23	24	23	22	26	15	22
Other work-related training	9	7	9	11	9	11	6	7
Most important reason for taking training:								
To change occupational field	3	3	3	S	3	2	2	3
Further skills in occupational field	67	70	70	66	67	69	64	68
Licensure/certification	8	S	5	13	3	4	24	3
Increase opportunities	4	5	4	5	5	5	2	6
Learn skills for new position	7	9	7	6	8	7	3	9
Required or expected by employer	9	10	9	7	13	10	4	10
Other reasons	2	S	2	S	2	4	2	2

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Numbers are rounded to nearest hundred and details may not add to total because of rounding. Percentages are rounded to the nearest whole number and may sum to more than 100 because multiple answers are allowed. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 30. Continuing education of doctoral scientists and engineers between April 1999 and April 2001, by field of doctorate: 2001

Continuing education	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total (Number)	656,500	11,200	29,600	161,200	23,700	131,700	87,600	98,600	113,000
					Percent				
Courses taken:									
Took courses	5	S	4	6	6	5	4	5	6
Did not take courses	95	97	96	94	94	96	96	95	95
Total taking courses (Number)	33,100	S	1,200	9,500	1,400	5,900	3,400	5,100	6,200
					Percent				
Reasons for taking courses[1]:									
Gain further education before career	29	S	S	37	S	29	20	25	24
Prepare for graduate school	2	S	S	S	S	S	S	S	S
Change academic or occupational field	34	S	S	39	S	38	26	27	37
Gain further skills or knowledge	59	S	61	60	74	54	63	60	58
Licensure or certification	21	S	S	27	S	18	19	26	15
Increase opportunities for advancement	45	S	46	49	55	46	38	35	49
Required or expected by employer	14	S	S	17	S	13	15	11	12
Leisure or personal interest	48	S	54	43	49	45	54	55	44
Other reason	2	S	S	S	S	S	S	S	S
School-related costs:									
Employer paid costs	44	S	49	41	46	46	39	34	55
Employer did not pay cost	56	S	51	59	54	55	61	66	45
Degree/certificate status:									
Completed degree/certificate	16	S	S	18	S	12	S	11	19
Did not complete degree/certificate	84	S	84	82	76	88	88	89	82

[1] Percentage may sum to more than 100 because multiple answers are allowed.

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to total because of rounding.
Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from U.S. institutions and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 31. Most important resource used and length of time taken to find first career path job for recent doctoral recipients, by field of doctorate: 2001

Resource and length of time	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total recent doctoral recipients holding a career path job (number)	40,200	3,000	10,000	2,200	6,200	5,100	6,100	7,600
	Percent							
Most important job search resource:								
Faculty or advisor	25	24	30	33	29	21	16	22
Informal channels through colleagues or friends	26	22	20	25	25	25	40	26
Professional meetings and/or journals	13	S	16	S	S	20	13	9
Other resource [1]	37	44	34	31	38	34	32	43
Length of time between completion of first doctoral degree and first career path job:								
Less than 1 month [2]	72	82	68	74	76	75	70	72
1-6 months	20	S	23	S	19	18	22	19
7-12 months	5	S	5	S	S	S	S	S
More than 12 months	3	S	S	S	S	S	S	S

[1] 'Other resource' includes professional recruiter, college/department placement office, electronic postings, newspapers, direct contact with company, and other.

[2] Includes those who already held a career path job before completion of doctoral degree.

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: 'Recent doctoral recipients' are those who reported having received their doctorate between July of 1998 and June of 2000. 'Career path job' is defined as a job that helps further one's career plans or a job in a field where one wants to make a career. Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to total because of rounding. Survey of Doctorate Recipients includes persons who had earned a research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 32. Factors that somewhat or greatly limited career path job search by recent doctoral recipients, by field of doctorate: 2001

Factors limiting career path job search	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total recent doctoral recipients seeking or holding a career path job (number)	41,800	3,000	10,400	2,300	6,500	5,400	6,200	7,900
	Percent							
Factors that somewhat or greatly limited career path job search:								
Family responsibilities	41	37	42	52	39	38	37	42
Spouse's career or employment	38	37	42	46	36	37	38	34
Debt from undergraduate or graduate degree(s)	19	18	19	S	15	18	34	14
Desire to not relocate	38	32	31	47	37	39	51	39
Suitable job not available	33	26	33	33	34	38	33	32
Other	3	S	S	S	S	S	S	S

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: 'Recent doctoral recipients' are those who reported having received their doctorate between July of 1998 and June of 2000. 'Career path job' is defined as a job that helps further one's career plans or a job in a field where one wants to make a career. Numbers are rounded to nearest hundred and details may not add to total because of rounding . Percentages are rounded to the nearest whole number and may sum to more than 100 because multiple answers are allowed. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 33. Areas of training in which recent doctoral recipients thought their doctoral program had somewhat or very adequately prepared them for a career, by field of doctorate: 2001

Areas of doctoral training	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total recent doctoral recipients (number)	48,200	1,500	2,000	12,200	2,700	7,600	6,200	6,900	9,100
	Percent								
General problem solving skills	97	96	98	98	96	99	92	96	99
Subject matter knowledge	96	98	95	98	97	94	97	97	96
Oral communication skills	90	93	86	93	92	91	84	93	87
Teaching skills	72	72	82	71	73	72	75	76	64
Collaboration and teamwork skills	82	83	75	85	86	87	67	87	81
Quantitative skills	92	95	86	89	96	97	85	93	95
Writing skills	92	93	77	92	93	89	93	96	91
Computer skills	87	99	82	88	88	90	82	77	94
Research integrity/ethics	94	91	86	93	96	94	93	98	93
Establishing contacts with colleagues in field	77	76	81	79	83	74	73	78	75
Management or administrative skills	44	47	27	49	49	41	37	46	45

NOTES: Recent doctoral recipients' are those who reported having received their doctorate between July of 1998 and June of 2000. Numbers are rounded to nearest hundred and details may not add to total because of rounding. Percentages are rounded to the nearest whole number and may sum to more than 100 because multiple answers are allowed. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 34. Top two areas of the doctoral program in which recent doctoral recipients would have liked more training, by field of doctorate: 2001

Areas of doctoral training	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total recent doctoral recipients (number)	48,200	3,500	12,200	2,700	7,600	6,200	6,900	9,100
Additional training desired (number)	38,100	2,500	10,000	2,000	5,800	5,100	5,600	7,200
	Percent							
General problem solving skills	7	S	9	S	S	S	S	10
Subject matter knowledge	15	S	13	S	20	13	16	12
Oral communication skills	15	S	13	S	17	13	S	25
Teaching skills	23	S	26	26	20	26	27	19
Collaboration and teamwork skills	14	S	14	S	13	22	S	15
Quantitative skills	10	S	12	S	S	23	12	S
Writing skills	15	S	19	S	19	12	S	14
Computer skills	17	S	20	S	19	16	19	11
Research integrity/ethics	4	S	S	S	S	S	S	S
Establishing contacts with colleagues in field	29	32	25	S	28	33	35	28
Management or administrative skills	31	26	31	36	28	15	38	37

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Recent doctoral recipients' are those who reported having received their doctorate between July of 1998 and June of 2000. Numbers are rounded to nearest hundred and details may not add to total because of rounding. Percentages are rounded to the nearest whole number and may sum to more than 100 because multiple answers are allowed. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 35. Level of overall satisfaction with doctoral program by recent doctoral recipients, by field of doctorate: 2001

Level of overall satisfaction with doctoral program	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total recent doctoral recipients (number).....	48,200	1,500	2,000	12,200	2,700	7,600	6,200	6,900	9,100
					Percent				
Very satisfied.....	58	57	71	54	62	55	51	64	61
Somewhat satisfied.....	35	40	S	37	31	37	39	32	34
Very/somewhat dissatisfied.....	7	S	S	9	S	8	10	S	S

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: 'Recent doctoral recipients' are those who reported having received their doctorate between July of 1998 and June of 2000. Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 36. Level of satisfaction of doctoral scientists and engineers with various attributes of principal job, by field of doctorate: 2001

Job attributes and level of satisfaction	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
	Field of doctorate								
Total employed (number)	574,900	10,800	26,000	140,800	21,400	111,300	76,200	88,900	99,600
	Percent								
Salary:									
Very satisfied	31	36	30	28	27	34	30	30	33
Somewhat satisfied	49	48	50	49	51	50	47	47	52
Somewhat dissatisfied	15	13	15	16	16	12	15	17	12
Very dissatisfied	6	S	6	7	6	4	7	7	3
Benefits:									
Very satisfied	39	41	39	39	39	41	42	37	38
Somewhat satisfied	45	48	48	44	47	46	41	37	50
Somewhat dissatisfied	11	9	8	11	10	10	11	16	10
Very dissatisfied	5	S	4	6	5	3	6	10	3
Job security:									
Very satisfied	47	47	56	45	47	45	57	48	43
Somewhat satisfied	35	40	31	36	38	36	28	35	41
Somewhat dissatisfied	12	12	9	12	10	14	8	12	12
Very dissatisfied	6	S	5	7	6	6	7	6	4
Job location:									
Very satisfied	55	55	56	55	55	53	54	58	53
Somewhat satisfied	32	31	32	32	33	34	31	29	34
Somewhat dissatisfied	11	12	10	11	10	11	11	10	10
Very dissatisfied	3	S	2	3	2	3	3	3	2
Opportunity for advancement:									
Very satisfied	27	31	26	28	27	25	29	30	25
Somewhat satisfied	44	49	50	44	44	45	41	41	47
Somewhat dissatisfied	21	17	19	20	21	21	20	21	22
Very dissatisfied	8	S	6	9	8	9	10	8	7
Intellectual challenge:									
Very satisfied	54	52	47	59	55	50	53	61	49
Somewhat satisfied	33	35	37	31	32	36	33	29	38
Somewhat dissatisfied	10	11	14	8	11	11	12	8	11
Very dissatisfied	3	S	S	2	S	3	3	2	3
Level of responsibility:									
Very satisfied	52	47	45	55	53	47	53	64	44
Somewhat satisfied	38	43	45	35	35	41	37	29	43
Somewhat dissatisfied	9	9	9	8	10	10	8	6	11
Very dissatisfied	2	S	S	2	S	2	3	1	2

See explanatory information and SOURCE at end of table.

Table 36. Level of satisfaction of doctoral scientists and engineers with various attributes of principal job, by field of doctorate: 2001

Job attributes and level of satisfaction	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed (number)	574,900	10,800	26,000	140,800	21,400	111,300	76,200	88,900	99,600
	Percent								
Degree of independence:									
Very satisfied	66	66	64	66	67	61	69	75	60
Somewhat satisfied	27	27	31	26	27	31	24	19	32
Somewhat dissatisfied	6	6	5	6	5	6	5	4	6
Very dissatisfied	2	S	S	2	S	2	2	2	2
Contribution to society:									
Very satisfied	53	38	44	57	64	45	55	68	42
Somewhat satisfied	38	49	45	36	32	44	37	26	46
Somewhat dissatisfied	7	10	9	6	4	8	6	5	10
Very dissatisfied	2	S	2	1	S	3	2	1	2

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 37. Importance of various job attributes to doctoral scientists and engineers, by field of doctorate: 2001

Job attributes and level of importance	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
	Field of doctorate								
Total employed (number)	574,900	10,800	26,000	140,800	21,400	111,300	76,200	88,900	99,600
	Percent								
Salary:									
Very important	45	43	43	43	48	42	43	52	46
Somewhat important	52	54	52	54	49	55	53	45	51
Somewhat unimportant	3	S	3	3	S	3	3	2	2
Not important at all	1	S	S	1	S	1	1	1	1
Benefits:									
Very important	49	39	47	51	59	48	51	48	45
Somewhat important	46	55	48	45	37	47	43	43	50
Somewhat unimportant	3	S	4	2	3	3	3	6	3
Not important at all	2	S	S	1	S	1	2	3	1
Job security:									
Very important	47	36	49	51	51	47	51	47	41
Somewhat important	45	52	45	43	43	46	40	45	49
Somewhat unimportant	6	10	5	4	4	6	6	7	8
Not important at all	2	S	S	2	S	2	3	2	3
Job location:									
Very important	50	48	51	51	53	47	52	52	49
Somewhat important	44	46	45	44	43	47	42	42	46
Somewhat unimportant	5	5	4	4	3	5	4	5	5
Not important at all	1	S	S	1	S	1	1	1	1
Opportunity for advancement:									
Very important	41	42	36	46	45	40	40	32	46
Somewhat important	47	46	50	45	45	49	47	49	44
Somewhat unimportant	9	10	10	6	8	8	10	14	8
Not important at all	3	S	4	2	3	3	4	5	3
Intellectual challenge:									
Very important	79	81	74	80	83	78	83	82	77
Somewhat important	20	19	24	19	16	22	17	18	22
Somewhat unimportant	1	S	S	1	S	1	1	S	1
Not important at all	0	S	S	S	S	S	S	S	S
Level of responsibility:									
Very important	48	43	32	51	55	44	47	53	47
Somewhat important	45	50	54	44	39	48	44	42	46
Somewhat unimportant	6	7	11	5	5	7	7	4	6
Not important at all	1	S	3	1	S	2	2	1	1

See explanatory information and SOURCE at end of table.

Table 37. Importance of various job attributes to doctoral scientists and engineers, by field of doctorate: 2001

Job attributes and level of importance	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed (number)	574,900	10,800	26,000	140,800	21,400	111,300	76,200	88,900	99,600
	Percent								
Degree of independence:									
Very important	73	71	66	73	81	69	80	81	66
Somewhat important	25	27	30	25	18	29	19	18	31
Somewhat unimportant	2	S	3	1	S	2	1	1	3
Not important at all	0	S	S	S	S	S	S	S	S
Contribution to society:									
Very important	54	42	41	59	69	43	64	68	43
Somewhat important	39	46	50	37	30	48	32	29	48
Somewhat unimportant	5	10	7	4	S	8	3	3	8
Not important at all	1	S	2	1	S	1	1	1	1

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 38. Number of articles, papers and books authored by doctoral scientists and engineers between April 1995 and April 2001, by field of doctorate and employment sector: 2001

Field of doctorate and employment sector	Total number	Number of articles						Number of papers						Number of books					
		None	1-2	3-5	6-10	More than 10	Mean number	None	1-2	3-5	6-10	More than 10	Mean number	None	1-2	3-5	6-10	More than 10	Mean number
		Percent						Percent						Percent					
All doctoral scientists and engineers	656,500	44	17	16	11	12	4.4	35	15	18	15	17	6.4	81	15	3	1	0	0.4
Field of doctorate:																			
Computer and information sciences	11,200	44	24	16	10	5	2.8	27	19	18	17	19	7.2	84	13	S	S	S	0.3
Mathematical sciences	29,600	47	19	15	10	9	3.6	42	18	18	13	10	3.9	86	12	S	S	S	0.3
Biological and agricultural sciences	161,200	32	15	20	16	18	6.4	29	14	19	18	20	7.5	79	15	4	1	S	0.5
Health sciences	23,700	35	19	17	14	15	5.3	27	13	20	18	23	8.0	75	18	5	S	S	0.6
Physical and related sciences	131,700	45	16	15	11	14	5.1	38	15	17	14	17	6.5	87	11	2	0	S	0.3
Social sciences	87,600	44	21	17	11	7	3.1	30	15	19	19	17	5.8	67	25	7	1	S	0.8
Psychology	98,600	61	15	10	7	7	2.7	50	14	13	10	14	4.9	84	13	3	1	S	0.3
Engineering	113,000	49	19	15	9	8	3.5	33	16	20	14	17	6.7	86	12	2	S	S	0.3
Employment sector:																			
Education institution	263,000	25	17	20	18	21	7.3	18	13	19	21	29	10.1	72	21	5	1	0	0.6
Industry	257,200	56	19	14	7	5	2.3	44	18	19	12	8	3.8	88	10	2	1	0	0.3
Goverment	54,600	41	18	15	13	14	4.9	30	13	17	18	22	7.4	82	14	4	S	S	0.4
Not working	81,700	74	13	7	3	2	1.3	69	13	10	4	3	1.6	89	9	1	S	S	0.2

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 39. Number of articles, papers and books authored by academically employed doctoral scientists and engineers between April 1995 and April 2001, by faculty rank and tenure status: 2001

Faculty rank and tenure status	Total number	Number of articles						Number of papers						Number of books					
		None	1-2	3-5	6-10	More than 10	Mean number	None	1-2	3-5	6-10	More than 10	Mean number	None	1-2	3-5	6-10	More than 10	Mean number
Total academically employed		Percent						Percent						Percent					
doctoral scientists and engineers	254,600	23	17	20	18	22	7.6	16	13	19	22	30	10.4	72	21	5	1	0	0.7
Faculty rank:																			
Full professor	89,200	22	15	17	16	31	10.5	16	11	17	20	37	13.5	63	26	8	2	1	1.0
Associate professor	54,000	21	16	20	19	23	7.4	14	11	18	23	34	10.9	71	22	6	2	S	0.6
Assistant professor	48,700	17	19	25	23	17	6.2	10	12	21	27	32	9.8	76	20	3	S	S	0.4
Instructor/lecturer	9,300	42	19	21	11	8	3.3	36	17	23	15	10	4.3	80	16	S	S	S	0.4
Adjunct and other faculty	8,500	46	20	17	9	7	3.1	33	21	19	15	13	5.2	84	14	S	S	S	0.3
Rank not applicable	44,900	26	18	25	19	12	5.0	20	17	23	23	18	6.8	82	14	3	S	S	0.4
Tenure status:																			
Tenured	126,400	22	15	18	17	28	9.2	15	11	18	21	35	12.3	66	25	7	2	S	0.8
On tenure track	40,300	13	18	25	24	20	6.9	7	11	19	28	35	10.9	75	21	3	S	S	0.5
Not on tenure track	30,700	24	18	23	19	16	6.0	17	14	24	22	22	8.3	77	17	5	S	S	0.5
Tenure not applicable	57,300	31	19	21	16	13	5.2	24	16	20	20	20	7.1	80	15	4	1	S	0.5

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Academe includes 2-year and 4-year colleges, universities, medical schools, and university-affiliated research institutes. Those on postdoctoral appointments are also included in this table, mostly under "not applicable for position". Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to total because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients

Table 40. Patent activities by doctoral scientists and engineers between April 1995 and April 2001, by field of doctorate: 2001

Patent activities	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total doctoral scientists and engineers (number)	656,500	11,200	29,600	161,200	23,700	131,700	87,600	98,600	113,000
					Percent				
Named as inventor	15	27	6	15	6	23	1	1	29
Not named as inventor	85	73	94	85	94	77	99	99	71
Total named on patent applications (number)	95,600	3,000	1,800	24,700	1,300	29,900	900	1,400	32,600
					Percent				
Number of patent applications:									
1-2	53	49	60	66	73	46	76	67	48
3-10	39	46	30	31	S	44	S	S	43
More than 10	8	S	S	4	S	10	S	S	9
Number of patents granted:									
None	26	39	37	33	S	21	S	38	24
1-2	45	42	41	48	53	43	S	53	46
3-10	24	S	S	18	S	30	S	S	26
More than 10	5	S	S	S	S	8	S	S	5
Total with patents granted (number)	70,900	1,800	1,100	16,500	900	24,000	S	900	25,100
					Percent				
Number of products or licenses:									
None	45	36	S	52	S	44	S	S	42
1-2	39	41	S	38	S	38	S	S	40
More than 3	16	S	S	10	S	18	S	S	18

KEY: S = Suppressed due to too few cases (fewer than 500 weighted cases).

NOTES: Numbers are rounded to nearest hundred. Percentages are rounded to the nearest whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a science or engineering research doctorate from an U.S. institution and resided in U.S. as of April 2001.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 2001 Survey of Doctorate Recipients